THE FORESTRY BRANCH
THIRD ANNUAL REPORT

1985 - 1986

Manitoba
Natural Resources

TABLE OF CONTENTS

	PAGE
Introduction	1
THE FORESTRY BRANCH	
A. ADMINISTRATION	4
B. FOREST INVENTORY	6
C. TIMBER MANAGEMENT AND DEVELOPMENT	10
D. SILVICULTURE	25
E. FOREST PROTECTION AND DUTCH ELM DISEASE	31
CANADA/MANITOBA FOREST RENEWAL AGREEMENT	38
THE JOBS FUND SECTORAL PROJECT IN FORESTRY	43

FORESTRY BRANCH THIRD ANNUAL REPORT - 1985/86

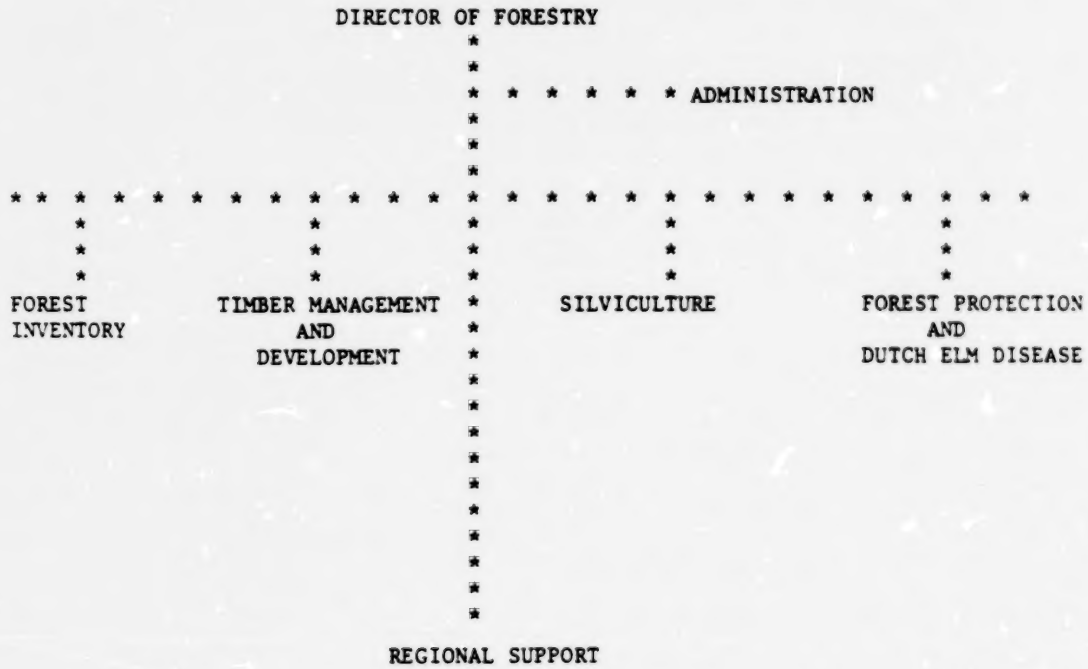
Introduction

This is the third annual report of the Forestry Branch and covers the fiscal year ending March 31, 1986. At the close of this fiscal year, a new level of forest management will have been reached in Manitoba. The five year period involving the fiscal years 1981/82 to 1985/86 inclusive, marks the termination of the first five year period upon which the Forestry Branch must complete a five year report on the status of the Province's forests. It also marks the end of the first five year period of the 20 Year Forest Management Plan.

The objective of the annual and five year report is to more clearly place a greater level of accountability for the delivery and implementation of the many projects and programs of the Forestry Branch. Downsizing of provincial budgets and greater priority setting in respect of both department and government mandates has resulted in a conscious effort by Forestry Branch staff to become more cost effective in the delivery of their projects and to set priorities within branch programs respecting those afore-mentioned mandates.

In all, the activities of the branch, both in the ongoing budget and those activities associated with the Forestry Initiatives (the Canada/Manitoba Forest Renewal Agreement and the Jobs Fund Sectoral Project in Forestry) went extremely well. Programs and projects within all sectors were delivered according to schedule and within budget parameters. With continuing reallocation of budgeted funds and repriorization of departmental and branch projects, however, there will be conscientious effort required in the future to ensure that the numerous programs of the branch yield the greatest benefit for the expenditures involved. There is continued expectation that productivity and the demands on the staff will continue to increase while the resources with which to meet those demands and provide services to both client groups and the public in general, may become increasingly more scarce. As such, it will be expected that the most effective and cost-efficient methods, the utilization of high technology advancements and new strategies will have to be developed by staff to meet the challenges.

Between the period April 1, 1985 and March 31, 1986, the branch organizational structure remained relatively static to that of the previous year, both in terms of the numbers of staff, and their assignment to the five sections and five regional support offices and the responsibilities of the staff within those positions. The head office of the Forestry Branch is located in Winnipeg and as mentioned previously, consists of five sections responsible for Administration, Forest Inventory, Timber Management and Development, Silviculture and Forest Protection and Dutch Elm Disease. The branch also consists of five regional offices that provide branch representation at the field level.



A more detailed organization chart is found attached to final page of this document.

Each of the regional offices is staffed with a regional forester, clerical support and professional forestry and technical personnel. The Regional Offices

are located in Winnipeg (Southern Region), Beausejour (Eastern Region), Gimli (Interlake Region), Dauphin (Western Region) with a sub-region at Swan River and The Pas (Northern Region).

The responsibility of the head office portion of the Branch is to provide direction for all administrative and management aspects of the branch's activities. In particular, this means responding to and developing program design, provincial priorities, policy reviews and annual budget preparation. The head office is responsible for ensuring that government procedures, directives, policy and acts and regulations are adhered to, and at an acceptable level. They also are to maintain a close liaison with the forest industry of Manitoba. The branch is also responsible for consulting with the forest industry and keeping them informed of government direction and policies. The head office also assists with the development and expansion of the industry.

ADMINISTRATION

The Administration Section of the Forestry Branch is responsible for the full operation and co-ordination of all Administrative services within the Branch. This includes the financial commitment system, personnel, budget estimates, cash flows, computer coding, departmental equipment, vehicle requirements, accounts payable and receivable, and contracts. The Section also co-ordinates the administrative requirements for five regional offices, one district office and two nursery offices.

This Section maintained financial control and accountability for the provincial share of the Canada/Manitoba Forest Renewal Agreement and Manitoba Jobs Fund Sectoral Project in Forestry.

The Forestry Branch 1985/86 fiscal year budget was allocated and expended as follows:

CURRENT BUDGET	SY's	BUDGETED	EXPENDED
A) Administration	6.0	228.1	264.3
B) Forest Inventory	20.0	724.3	761.4
C) Timber Management & Development	9.0	293.6	251.7
D) Silviculture	7.0	1,475.8	1,326.6
E) Forest Protection	28.35	2,103.0	1,915.0
F) Regional Management	22.0	930.6	831.4
G) Forest Renewal - Northern Development Agreement	16.33	2,007.7	1,961.0
Sub Total Current Budget	109.16	7,763.1	7,311.4
On Going Capital - Equipment	-	46.9	46.2
Canada/Manitoba Forest Renewal Agreement	1.0	3,103.0	3,032.5
Manitoba Jobs Fund Sectoral Project	11.0	3,115.0	3,024.5
Total Forestry Budget 85/86	$121.16	$14,028.0	$13,414.6

The second annual Forestry Branch meeting involving all staff was held on October 7, 8, and 9, 1985 in Gimli,Manitoba. The meeting held at the Lakeside Camp included business meetings and technical sessions. The field tour had to be cancelled due to a snow storm in the immediate area.

FOREST INVENTORY

Forest Inventory reports summarizing forest conditions and wood volumes available for annual harvest were completed for Forest Management Unit 06 (Deloraine) in the Aspen/Parkland Forest Section, Forest Management Unit 13 (Duck Mountain) in the Mountain Forest Section and Forest Management Units 53 to 57 inclusive in the Saskatchewan River Forest Section.

Forest Survey crews collected the forest measurement data required for the complete revision of the stand/stock volume tables for the Pineland Forest Section and Portion of the Highrock Forest Section.

The Forestry Geographic Information System "FORIST" provided under the Canada/Manitoba Forest Renewal Agreement began operation in a twenty township (1900 km²) training and test area in the Pineland Forest Section in October of 1985. The purpose of the system is to allow modification and rapid evaluation of change impacts on Manitoba's Forest Resources. The formidable task of entering the 4,300 forest cover map sheets and inter-connected forest cover descriptions will begin when the test area activities have been completed.

The five year summary of Manitoba's Forest Resource Base was completed and will form a major component of the first five year review of Manitoba's Forest resources to be made to the Legislature in 1986. Manitoba's Forest Sections contain 14,911,396.3 hectares of Productive forest land supporting a merchantable wood volume of 745,624,740 cubic metres of all species in all ownerships.

Forest Inventory activities were carried out in the following areas of Manitoba 's Forest Zone.

FOREST INVENTORY PROJECTS 1985/86

ACTIVITY	AREA	
	SQUARE KILOMETERS	SQUARE MILES
Aerial Photography	21,180	13,220
Forest Cover Mapping	19,370	12,040
Air Photointerpretation	19,370	12,040

ACTIVITY	AREA	
	SQUARE KILOMETERS	SQUARE MILES
Forest Surveys	28,540	17,730
Area Compilation	14,498	9,010
Area and Volume Statistics	14,498	9,010
Forest Inventory Reports	31,740	19,720
Township Air Photo Mosaics	59,780	37,150

AERIAL PHOTOGRAPHY

The Nelson River Forest Section, FMU's 83,84,85,87 and 20 Townships in FMU 82, 19660 km². The contract was incomplete because of a gap between the lines of 24 kms and a gap in a line of 8 km. The area will be completed in 1986/87 weather permitting.

MOSAICS

Six hundred and twenty six Mosaics or 58,370 km² were manufactured under the Jobs Fund Sectoral Project for 1985/86.

PHOTOTYPING

Forest Cover was delineated on new aerial photography for Forest Management Units 35, 38, 39 and 10 townships in FMU 37 for a total area of 15,357 km².

PRELIMINARY FOREST COVER MAPPING

Areas completed include a portion of FMU 20 and 30 consisting of 15 townships, all of FMU's 35, 38, 39 and a portion of FMU 37 consisting of 10 townships for a total area of 16,782 km².

PHOTOINTERPRETATION

Areas completed include portions of Forest Management Units 30, 35, 38, 39 and 37 in the Lake Winnipeg East Forest Section totalling 14,065 km². Also a portion of Forest Management Units 20 and 23 in the Pineland Forest Section totalling 6,645 km² and portions of Forest Management Units 60, 62, 63 and 64 in the Highrock Forest Section totalling 8,600 km². Total for the area was 29,310 km² that was photointerpreted for productivity, species composition, site class, maturity class and density.

FOREST SURVEYS

Forest surveys were carried out in the Pineland Forest Section and the Whiteshell Forest Management Unit consisting of 14,540 Km^2 and portions of the Highrock Forest Section consisting of 14,995 Km^2 for a total area covered of 29,535 Km^2. A total of 3,357 temporary plots were established during the forest surveys.

DATA COMPILATION

FIACS (Forest Inventory Area Calculation System)

The area is recorded by status and ownership for 15,580 Km^2 in Management Units 06 and 07 and volume and area summaries were completed for Management Unit 06, 07 and Forest Management Unit 11. The system was discontinued on August 21, 1985.

FORIST (Forestry Geographic Information System)

The Forist system was turned over for use by the supplier (ESRI Canada) on August 30, 1985. Programming activity to allow for data entry including basic U.T.M. co-ordinate data for each township corner began at this time. Data entry for the 20 township test area in Forest Management Unit 20 of the Pineland Forest Section began on October 17, 1985. By March, 1986, all nine layers of each of the 20 map sheets had been digitized but major problems relating to the unioning of the nine layers were being encountered. Procedure revisions began as well as correction of data formats for each layer of each township in the test area.

AIR PHOTO MOSAIC PROGRAM

A total of 626 mosaics were assembled at the original photo scale of 1:15,840. Negatives were made of each mosaic and two copies of each were made at 1:31,680. One copy has been retained by Forest Inventory and one has been sent to the respective Regional Forestry Office.

WILDFIRE MANAGEMENT

All area and volume loss reports were processed for 1985/86 fire year. Additional programs were prepared to provide for analysis of the data base in order to assess Wildfire and improve on prevention and suppression approaches.

FIVE YEAR LEGISLATIVE REVIEW OF FORESTRY

All area and volume summaries of all Forest Management Units, Forest Sections and the Province were completed in the last week of March, 1986. This data is the first complete summary of all Forest Management Units as no previous data was available for the Aspen Parkland Forest Section. The previous summary was made in 1980 for the 20 Year Management Plan but did not contain a complete data base for Forest Management Units in the Aspen Parkland, Mountain and Interlake Forest Sections which were previously considered to be purely agricultural. A forested productive area of 1,322,040 hectares supporting a merchantable volume of 56,550,000 cubic meters of predominantly hardwood species was identified and located in this area of the Province excluding the area and volume in Riding Mountain National Park.

TIMBER MANAGEMENT AND DEVELOPMENT

The recovery of the forest products industry eased off considerably throughout most of the 1985/86 fiscal year. With the continued weak Canadian dollar, and the declining interest and mortgage rates, little movement occurred in either the paper or pulp reported prices, whereas lumber posted an overall gain.

The deferred newsprint price increase from $535 per tonne to $570 never materialized, and some discounting to just over $400 per tonne occurred throughout the year in order to maintain sales levels. Market pulps remained in the $425 to $450 per tonne range throughout most of the 12 months.

Lumber prices showed an overall growth mainly due to a spurt in late February and March. United States prices, that opened the spring of 1985 at a low in the $130 per MFBM range, moved up to the $150 range for most of the summer, fall and winter, but jumped to the $200 level by the end of March 1986. This has been attributed to the lowest mortgage rates in seven years (back to late 1978). This price surge may not continue as there is still excess production capacity in the North American softwood lumber market.

Composite boards such as waferboard continued to increase their share of the market at the expense of plywood and as a result of the increasing home building rate caused by the sliding mortgage rate. Several inquiries were received later in the year regarding a potential wood supply that could support a plant for Manitoba.

The major modification to the saw and pulp mill at Manfor were completed during 1985. The most significant changes were in the pulp mill by producing improved quality kraft paper and by adding the capability to produce studs for construction in the lumber mill. By year end, the new sawmill, although operating, was just approaching the designed productivity level.

The economic importance of the forest industry that provides approximately 10,000 jobs in Manitoba is shown by the figures and information found in the statistical tables immediately following this section.

TRADE RESTRICTIONS

The United States softwood lumber industry continued pressing for action to curtail Canadian softwood lumber exports to the United States. By fiscal year end, Canada had captured a reported one third of the United States market which itself was very active as a result of the declining mortgage rates. Later in the year, a series of meetings between the two government administrations occurred in order to try and resolve the situation. By the end of March no solution was reached and it was becoming evident that the United States softwood industry people were seriously influencing the United States administration.

LAND ALLOCATION

The Atikaki Provincial Wilderness Park Reserve was removed from the Reserve category and established as a Park in May of 1985. The full impact of this allocation will not become fully evident until completion of the new forestry inventory in 1988. The large size - approximately 1,000,000 acres - will have a significant impact on the forest industry potential on the area east of Lake Winnipeg.

Progress continued in developing two new proposed provincial forests. These are the Tommy Prince joint provincial forest/wildlife management area which is located in the central east Interlake area, and the Swan Pelican provincial forest which is found in the Western Region of Manitoba.

TIMBER SUPPLY AGREEMENTS

The independent consultants review of the Manitoba/Abitibi-Price Inc. 1979 Agreement was completed and submitted to the Departmental executive for review. The consultants report generally supported the format and Agreement with the company.

ROADS

As in past years, all proposed forest access roads to currently inaccessible mature forest stands in need of harvesting were deferred due to budget constraints. This situation is being further compounded by the potential reduction of rail services in some of the forest zone areas, and by the Departmental reduction in road maintenance. This situation has placed

substantial pressure on the small independent wood producer who relies on these government supported transportation networks.

MAJOR MEETINGS

Two major national forestry meetings were held in Manitoba during 1985/86. The annual meeting of the Canadian Institute of Forestry was held in Winnipeg during September. The Forestry Branch played an active role in the program and development of this meeting. Highlighting this event was an address by the recently appointed Minister for State (Forestry), Gerald Merrithew. While visiting Winnipeg, Mr. Merrithew also opened the new Canadian Forestry Service office on Main Street.

The other major meeting held, was in January when Winnipeg played host to one of the four plenary meetings prior to the National Forestry Congress to be held in Ottawa next April. The Forestry Branch played an active role in both hosting and participating in this two day event. The main theme for discussion was Multiple Use - Forestry and Environmental Issues.

TIMBER MANAGEMENT

The 1985/86 volume of timber harvested from provincial Crown lands totalled 1,488,236 m^3 of softwood and 200,661 m^3 of hardwood, for a grand total of 1,688,897 m^3. This is a 0.95 per cent increase over the 1,673,031 m^3 harvested during the 1984/85 fiscal year. Gains were posted for lumber, railroad ties, utility poles and fuelwood while slight slippages occurred in the mine timber, Christmas tree, pulpwood and round timber products.

This year the Forestry Branch total revenue set an all time record by exceeding the three million dollar level ($3,068,196.98). This represents an increase of 13.28 per cent over the last fiscal year. The largest increase was nearly $200,000. in the fire suppression cost recovery (almost doubling the previous year's figure) and followed by $150,000. increase in timber dues paid by the two large licence holders (provincial pulp and paper companies). Timber Permit revenues were up $31,000. whereas Timber Sale revenue dropped just over $11,000.

A revised timber dues schedule came into effect at the start of the third

fiscal quarter (October, 1985). The change removed the dues concession for Jack Pine pulpwood and made the rate for the higher value and demanded hardwood species of birch, ash, oak - the same as the softwood rate. With one exception, there is now essentially one dues rate for Crown wood. The exception is the rate for the Aspen/Poplar species which remained at the old hardwood level.

Timber permits issued this fiscal year totalled 6944. This is an increase of 37 permits from the 6907 issued the previous year. This small change in permit numbers is attributed to the relatively stable demand in local and overall forest products.

Nineteen Sale Quota assignments were given during the 1985/86 fiscal year. By March of 1986 there were 226 Timber Sale Quotas in the province. Many changes occurred with respect to the 340 Timber Permit Quotas that had existed at the start of this fiscal year. Timber Permit Quota assignments numbered nine during the year, however, there were 297 Timber Permit Quotas cancelled for no or minimal utilization as a result of the five year review incorporated into the revised Quota system. This now leaves 37 holding long term small volume quota commitments issued via a Timber Permit.

The 1985 metric timber scaling licence certification course was held in May at Swan River. Twelve candidates attended, but unfortunately, none of the students from the local high school forestry option course were able to attend. Previous years, students from this high school taking forestry have attended, with some earning a Scaler's licence. This year, ten candidates successfully completed the course of intensive field and classroom instruction and testing.

TABLE 1: SUMMARY OF TIMBER CUT ON CROWN LAND, 1985/86 (IN CUBIC METERS OF ROUND WOOD)

PRODUCT	SPECIES	CUBIC METERS	PERCENT
Lumber	Spruce, Pine, Fir Tamarac, Cedar,	388,810	
	Poplar, Birch and other hardwoods	86,016	
		474,826	28.11
Pulpwood	Spruce, Pine, Fir	1,029,001	
	Poplar	36,360	
		1,065,361	63.08
Railway Ties	Pine	5,043	0.30
Line Poles	Cedar, Pine, Tamarack, Spruce	427	0.02
Fence Posts	Cedar, Pine, Tamarack Poplar, Spruce, Oak	17,075	1.01
Round Timber	Spruce, Pine, Tamarack	13,111	0.78
Mining Timber	Pine, Spruce	2,493	0.15
Fuelwood	Birch, Poplar, Pine Spruce and other species	110,561	6.55
	TOTAL 1985/86	1,688,897	100.00
	TOTAL 1984/85	1,673,031	

TABLE 2: TIMBER CUT BY DEPARTMENTAL REGION, 1985/86

REGION	CUBIC METRES	PERCENT
Northeastern	10,857	0.64
Northwestern	622,163	36.84
Southeastern	274,866	16.27
Southwestern	5,761	0.34
Eastern	376,237	22.28
Interlake	80,897	4.79
Western	318,116	18.84
	1,688,897	100.00

DIAGRAM 1: TIMBER CUT BY DEPARTMENTAL REGIONS 1985/86

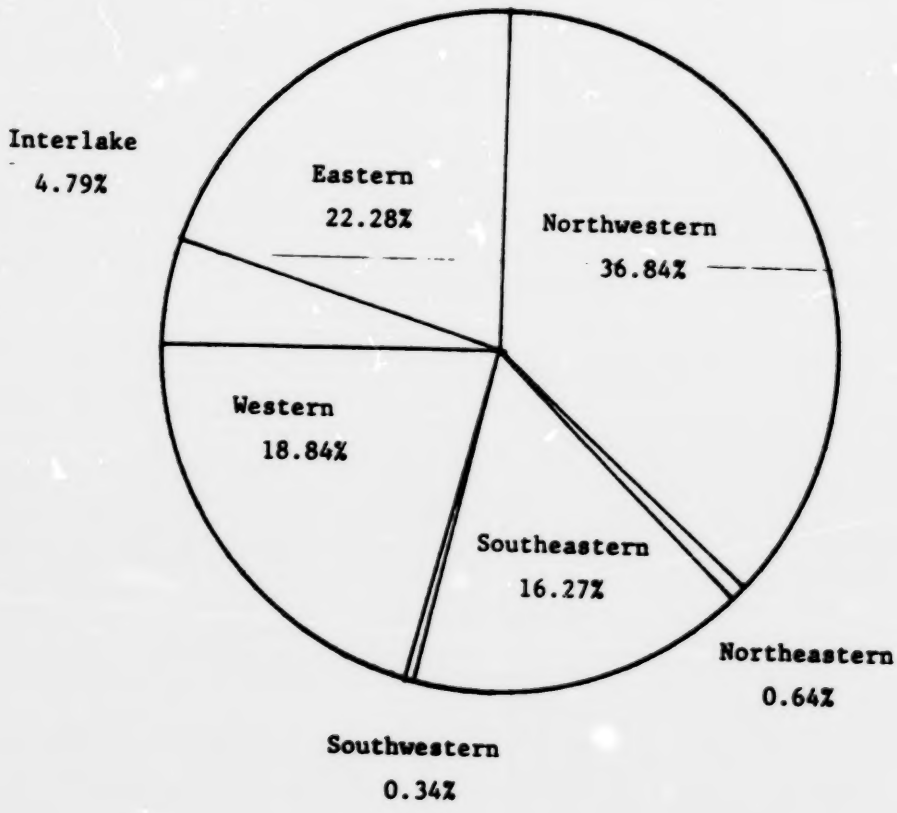


TABLE 2: RECORD OF TIMBER SCALED OR MANUFACTURED 1985/86

	LUMBER - CUBIC METRES								PULPWOOD- CUBIC METRES			
	Metres Mine Timber	Christmas Trees Pieces	Spruce	Balsam	Jack Pine	Other Soft-Woods	Poplar	Other Hard-Woods	Spruce	Balsam	Jack Pine	Poplar
SUMMARY BY REGION												
Northeastern	-	90	674	150	-	-	-	-	40	-	250	-
Northwestern	2,462	85	122,974	-	83,119	-	83	-	242,380	-	161,318	470
Southeastern	-	6,546	2,973	23	39,706	2,222	48,171	2,035	55,633	1,751	53,222	32,538
Southwestern	-	60	-	-	-	5	50	25	-	-	-	-
Eastern	31	9,739	3,042	75	6,842	431	4,326	987	267,392	618	69,942	2,890
Interlake	-	86	10,969	70	5,705	3	1,105	58	37,603	109	10,108	-
Western	-	1,289	80,217	253	29,325	32	27,524	1,652	106,462	-	22,173	462
TOTALS	2,493	17,895	220,849	571	164,697	2,693	81,259	4,757	709,510	2,478	317,013	36,360
SUMMARY BY STATUS OF LAND												
Prov. Forests												
Agassis	-	1,211	193	-	1,012	205	1,412	-	7,512	-	1,179	17,132
Belair	-	-	75	-	450	-	-	-	826	-	4,239	-
Brightstone	-	-	-	-	-	-	-	-	-	-	-	-
Cat Hills	-	450	-	-	1,844	-	-	-	158	-	1,622	-
Cormorant	-	-	8	-	938	-	48	-	-	-	-	-
Duck Mountain	-	738	43,427	15	13,597	32	26,812	1,652	52,933	-	4,586	-
NW Angle	-	185	-	-	28	50	18,394	698	10,425	476	5	-
Porcupine	-	-	21,055	-	14,422	-	403	-	27,180	-	17,331	462
Sandilands	-	4,332	2,106	12	25,611	294	17,310	237	32,063	425	31,149	15,569

TABLE 2: RECORD OF TIMBER SCALED OR MANUFACTURED 1985/86 (con't)

	Metres Mine Timber	LUMBER - CUBIC METRES Christmas Trees Pieces	Spruce	Balsam	Jack Pine	Other Soft-Woods	Poplar	Other Hard-Woods	PULPWOOD - CUBIC METRES Spruce	Balsam	Jack Pine	Poplar
SUMMARY BY STATUS OF LAND												
Prov. Forests												
Spruce Woods	-	-	-	-	-	-	-	-	-	-	-	-
Turtle Mountain	-	-	-	-	-	-	25	25	-	-	-	-
Whiteshell	-	44	647	-	10,736	1,187	7,008	919	5,565	250	18,260	50
TOTAL PROV. FOREST	-	6,960	67,513	27	68,638	1,768	71,412	3,531	136,662	1,151	78,371	33,213
OTHER PROV. LANDS	2,493	10,935	153,336	544	96,059	925	9,847	1,226	572,848	1,327	238,642	3,147
TOTALS	2,493	17,895	220,849	571	164,697	2,693	81,259	4,757	709,510	2,478	317,013	36,360
SUMMARY BY METHOD OF DISPOSAL												
Permits	31	5,185	5,826	241	3,636	1,800	15,527	321	19,797	1,969	11,467	26,572
Sales	2,462	12,705	101,950	330	82,909	651	61,644	3,557	244,706	310	82,724	9,788
Berths	-	-	113,065	-	78,076	235	4,088	879	444,808	-	222,699	-
Seizures	-	5	-	-	76	7	-	-	199	199	123	-
1985-86 TOTALS	2,493	17,895	220,849	571	164,697	2,693	81,259	4,757	709,510	2,478	317,013	36,360
					474,826					1,065,361		
1984 - 85 TOTALS	4,253	21,956	164,969	846	83,604	2,549	70,900	7,360	782,646	4,220	398,766	16,330
					330,228					1,201,970		

TABLE 2: RECORD OF TIMBER SCALED OR MANUFACTURED 1985/86 (Con't)

	PIECE PRODUCTS - CUBIC METRES				FUELWOOD - CUBIC METRES						CUBIC METRES	
					GREEN					Slabs and Tops	Round Timber	TOTALS
	Railway Ties	C.W. Poles	P.J. Poles	Posts	Spruce	Jack Pine	Poplar	Other Hardwoods	Dry			
SUMMARY BY REGION												
Northeastern	-	-	-	11	1,632	2,916	1,133	604	3,281	-	166	10,857
Northwestern	308	-	-	106	406	428	1,315	2,080	4,615	10	89	622,163
Southeastern	3,119	7	57	4,017	174	2,310	9,372	7,201	4,165	1,869	4,301	274,866
Southwestern	-	-	-	111	-	534	4,307	290	362	-	77	5,761
Eastern	1,212	-	41	725	196	1,391	5,652	3,627	6,122	110	585	376,237
Interlake	214	-	-	2,088	73	410	2,344	1,588	7,129	64	1,257	80,897
Western	190	-	322	10,017	425	710	10,103	7,999	13,544	70	6,636	318,116
TOTALS	5,043	7	420	17,075	2,906	8,699	34,226	23,389	39,218	2,123	13,111	1,688,897
SUMMARY BY STATUS OF LAND												
Prov. Forests												
Agassis	135	-	40	122	52	120	2,747	738	1,563	103	532	34,797
Belair	-	-	-	35	4	74	517	376	98	-	22	6,716
Brightstone	-	-	-	-	2	15	622	500	548	-	-	1,687
Cat Hills	-	-	-	-	-	-	-	-	10	-	-	3,634
Cormorant	-	-	-	-	-	43	71	113	469	-	12	1,702
Duck Mountains	190	-	322	2,006	32	121	3,479	3,016	1,476	70	2,087	155,853
NW Angle	-	-	-	408	-	6	623	3,573	154	18	241	35,099
Porcupine	-	-	-	7,323	-	-	762	2,494	11,308	-	3,583	106,323

TABLE 2: RECORD OF TIMBER SCALED OR MANUFACTURED 1985/86 (Con't)

	PIECE PRODUCTS - CUBIC METRES				FUELWOOD - CUBIC METRES					CUBIC METRES		
					GREEN							
	Railway Ties	C.W. Poles	P.J. Poles	Posts	Spruce	Jack Pine	Poplar	Other Hardwoods	Dry	Slabs and Tops	Round Timber	TOTALS
SUMMARY BY STATUS OF LAND												
Prov. Forest												
Sandilands	1,333	7	-	3,044	169	1,606	4,363	2,829	1,819	1,615	2,727	144,290
Spruce Woods	-	-	-	-	-	439	245	-	45	-	-	729
Turtle Mountain	-	-	-	-	-	-	45	100	93	-	-	288
Whiteshell	1,577	-	13	6	3	308	727	420	295	-	37	48,008
TOTAL PROV. FOR.	3,235	7	375	12,944	262	2,732	14,201	14,159	17,878	1,806	9,241	539,126
OTHER PROV. LANDS	1,808	-	45	4,131	2,644	5,967	20,025	9,230	21,340	317	3,870	1,149,771
TOTALS	5,043	7	420	17,075	2,906	8,699	34,226	23,389	39,218	2,123	13,111	1,688,897
SUMMARY BY METHOD OF DISPOSAL												
Permits	-	7	98	8,118	2,306	7,548	32,108	17,096	30,567	2,013	7,704	194,752
Sales	3,831	-	322	8,957	600	1,003	2,013	5,478	8,644	110	5,351	627,348
Berths	1,212	-	-	-	-	148	105	777	-	-	56	866,148
Seizures	-	-	-	-	-	-	-	38	7	-	-	649
1985-86 TOTALS	5,043	7	420	17,075	2,906	8,699	34,226 110,561	23,389	39,218	2,123	13,111	1,688,897
1984-85 TOTALS	2,862	-	57	7,263	2,891	9,176	26,931	31,382	31,043	2,170	22,805	1,673,031

TABLE 3

YEAR	TOTAL HARVEST (IN CUBIC METRES)	REVENUE (1)
1971/72	1,333,426	$ 697,703.88
1972/73	1,571,544	811,851.80
1973/74	1,588,759	843,081.37
1974/75	1,932,383	924,586.53
1975/76	1,851,552	1,739,308.27
1976/77	1,519,998	1,345,601.02
1977/78	1,646,562	1,176,078.00
1978/79	1,714,300	1,292,180.63
1979/80	1,940,082	1,624,290.86
1980/81	2,320,031	1,908,776.72
1981/82	1,782,078	1,792,589.82
1982/83	1,478,092	1,383,734.70
1983/84	1,500,332	1,964,510.80
1984/85	1,673,031	2,302,339.73
1985/86	1,688,897	2,473,081.25

(1) Dues in respect of Crown Timber Harvested.

TABLE 4: SUMMARY OF ANNUAL FOREST PRODUCTION BY FOREST PRODUCT (IN CUBIC METRES)

1981/82 TO 1985/86

	PULPWOOD		LUMBER		FUELWOOD		OTHER		TOTAL	
YEAR	VOLUME	%	VOLUME	%	VOLUME	%	VOLUME	%	VOLUME	%
1981/82	1,100,921	61.8	535,034	30.0	88,369	5.0	57,754	3.2	1,782,078	100%
1982/83	787,879	53.3	518,062	35.1	111,555	7.5	60,596	4.1	1,478,092	100%
1983/84	837,756	55.8	509,476	34.0	102,474	6.8	50,626	3.4	1,500,332	100%
1984/85	1,201,970	71.9	330,228	19.7	103,593	6.2	37,240	2.2	1,673,031	100%
1985/86	1,065,361	63.1	474,826	28.1	110,561	6.5	38,149	2.3	1,688,897	100%

TABLE 5: A COMPARISON OF PERMITS, LICENCES AND QUOTAS ON CROWN LANDS (INCLUDING PROVINCIAL FORESTS), 1984/85 AND 1985/86

	1984/85	1985/86
1. Timber Dealers and Swamill Licences		
Timber Dealers	28	53
Sawmill Licences	124	109
2. Permits and Licences Covering Timber Cutting Rights		
PERMITS	6,907	6,944
TIMBER SALE AGREEMENTS		
Awarded	23	194
Previously Awarded	232	58
TOTAL	255	252
3. Timber Seizures Recorded	17	14
4. Timber Allocations in Force at March 31		
Timber Sales	227	221
Timber Permits	340	36
TOTAL	567	257
5. Forestry Revenue (Crown Charges)	$ 2,708,558.80	$3,068,196.98

TABLE 6: A COMPARISON OF PERMITS AND LEASES IN PROVINCIAL FORESTS, 1984/85 AND 1985/86

	1984/85	1985/86
1. GENERAL PERMITS AND LEASES		
Sawmill sites	6	2
Trappers Cabins	52	43
Hunting and Fishing Cabins	3	3
Other lodges, cabins, residences	6	4
Grazing Fences	-	-
Maintain roads and/or spurlines	3	2
Youth groups (camping and sports)	5	5
Land Use for municipal purposes	7	8
Land Use for government purposes	7	4
Miscellaneous	24	26
TOTAL	113	97
2. HAY PERMITS		
Number of permits	16	18
Tonnes of Hay	255.27	234.65
3. GRAZING PERMITS		
Number of permits	3	3
Head of livestock	75	65

SILVICULTURE

The overall objectives of the silviculture program are:

1) To increase the number of hectares being reforested by planting, seeding, and scarifying to enhance natural regeneration;

2) To intensify the management of young natural stands and plantations through juvenile spacing, thinning and releasing from competing vegetation;

3) To grow sufficient seedling stock at the two provincial nurseries to meet the requirements of industrial and regional renewal programs;

and

4) To produce genetically improved seed for the forest renewal program.

The overall objectives were generally met with the total area being reforested, the nursery expansion, and the seedling production targets being achieved. To accomplish these objectives, the silviculture program is carried out under five activities. These are: Regional Programs, Private Industry Programs, Provincial Nursery Programs, Private Nursery Programs and Tree Improvement Programs. Each of the programs is described in detail below:

REGIONAL PROGRAMS

Under the Regional Silviculture program, the following activities took place in 1985/86.

Trees Planted (Bareroot and Container)	
Hand	4,550,105
Machine	455,125
Hectares Planted	
Hand	2,134
Machine	191

Hectares Site Prepared for Planting	2,764
Hectares Scarified for Natural Regeneration	523
Hectares Mechanically Thinned or Released	1,587
Hectares Herbicided (Roundup and Velpar)	382
Hectares Treated for Insect or Disease Infestation	720
Hectolitres of Cones Collected	213

The total area receiving some form of silviculture treatment under the regional program was 8,301 hectares, which represented a 25 percent increase over 1984/85. The largest increases were in the planting and site preparation programs which were 131 percent and 76 percent respectively. This increased activity was a direct result of funds from the Canada/Manitoba Forest Renewal Agreement being used to carry out reforestation on both backlog and current harvested or burnt over sites.

During the year, approximately 30 percent of the silviculture activities were completed using contractors that were awarded the contracts on a tendered basis. These contracts were initiated in the Western and Interlake regions and proved to be very successful with both quality and costs being improved upon. The use of tendered contracts will probably increase in the future.

In order to complete the expanded renewal activities, the Province purchased several pieces of site preparation and planting equipment. This included one M & M disc trencher, two C & H mechanical planters, and one C & H scarification plow.

The second silviculture area is

PRIVATE INDUSTRY PROGRAMS

Both Abitibi-Price Inc. in Pine Falls and Manitoba Forestry Resources Limited (Manfor) in The Pas are responsible for the renewal programs on their forest management licence and designated area respectively. The renewal activities completed by the two companies during 1985/86 follow:

	ABITIBI-PRICE	MANFOR
Trees Planted (Bareroot and Container)		
Hand	2,444,000	1,990,581

	ABITIBI -PRICE	MANFOR
Hectares Planted - Hand	1,021	1,018
Hectares Site Prepared for Planting	497	1,738
Hectares Scarified for Natural Regeneration	-	1,182
Hectares Mechanically Thinned or Released	176	203
Hectares Herbicided (Roundup & Velpar)	604	54
Hectares Treated for Insect or Disease Infestation	-	-
Hectolitres of Cones Collected	61	17

The two companies treated a total of 6,493 hectares which was a 39 percent increase over 1984/85. This increase was a result of the two companies meeting their ongoing renewal objectives and the additional treatment of backlog sites which was funded under the industrial side of the Canada/Manitoba Forest Renewal Agreement.

The third area of the silviculture program is

PROVINCIAL NURSERY PROGRAMS

The objective of the provincial nursery program is to provide quality bare-root and containerized seedlings ready for shipment in sufficient quantities to meet the requirements of renewing Manitoba's forests on cutover or burned Crown lands.

To meet the objectives, the Province has two provincial nurseries. The Pineland Provincial Forest Nursery located at Hadashville, 100 kilometres east of Winnipeg, which was established in 1953, and the Clearwater Provincial Forest Nursery located near The Pas, which was opened June 14, 1983. The Pineland Nursery is a combined bareroot and container nursery, whereas the new Clearwater Nursery at The Pas is restricted at this time to containerized seedling production.

Forest nursery activities in 1985/86 included the following:

- receiving and processing cones for seed extraction;
- storing the processed viable seed to meet seeding and planting program requirements;
- seeding, growing and packaging both bareroot and container seedlings ready for shipment;
- maintaining soils and seedbeds in an optimum condition for nursery production;
- operating and maintaining the physical nursery plant as well as operating a silviculture equipment pool including maintenance and repair of that equipment.

The Pineland Provincial Forest Nursery shipped 4,506,310 bareroot and 3,414,440 containerized seedlings for planting on Crown lands and the woodlot program during the year. This included White Spruce, Black Spruce, Jack Pine, Red Pine, Scots Pine and Siberian Larch.

The Clearwater Provincial Forest Nursery shipped approximately 2,000,000 containerized seedlings, primarily for Manfor's forest renewal program.

The fall container inventory at the Pineland Nursery was 2,177,023 seedlings, and at the Clearwater Nursery, the fall inventory was 2,000,000 containerized seedlings.

Both provincial nurseries continued to expand during this period under the five year Canada/Manitoba Forest Renewal Agreement. In this past year the following was completed at:

PINELAND

- Four greenhouses were completed;
- Four shadeframes were completed;
- The new pumphouse and irrigation system was completed and made operational.

CLEARWATER

- Four greenhouses were completed;
- Four shadeframes were completed;
- The seedline building was constructed;
- Construction began on additional greenhouses and shadeframes;
- The seed cleaning and container filling equipment was received and became operational.

Additional equipment such as tractor/loader, root pruners and chemical herbicide applicators were purchased or constructed. These enhanced the nursery's operational efficiency to produce quality seedling stock at a reasonable cost.

Seed extraction was carried out entirely at Pineland Nursery where 257 hectolitres were processed to produce 124 kilograms of seed.

During this time, the Branch assumed the responsibility of the Birds Hill Nursery complex which was previously operated by the Parks Branch. This new facility will be used to produce a small amount of seedling stock for the Parks Branch, to outline the seed orchard stock prior to transplanting to the field, and for operational seed orchards as well.

The fourth silviculture program is

PRIVATE NURSERY PROGRAMS

Use of private nurseries to grow container stock continued during 1985/86 with Dakota Ventures of Portage la Prairie being awarded a contract to produce 1.32 million seedlings for the 1986 planting season. This represented approximately 15 percent of the Province's container production requirements.

Under the Canada/Manitoba Forest Renewal Agreement, Abitibi-Price Inc. also negotiated a contract with Dakota Ventures to produce approximately 800,000 seedlings for the coming 1986 planting season.

The final program under silviculture is

TREE IMPROVEMENT

The basic goal of the tree improvement program in Manitoba is to develop genetically improved seed. To accomplish this goal, the following activities were initiated:

- Ground sampling of acceptable black spruce stands and subsequent collection of cones in seed zone 11.1 for the accelerated seed orchard program;

- Annual growth measurements of both white spruce and black spruce from all regions of the Province were completed for the provenance study program;

- Construction of the tree improvement greenhouse, laboratory, office... began with a completion target of mid 1986.

FOREST PROTECTION AND DUTCH ELM DISEASE CONTROL

During the summer of 1985 surveillance season, approximately 18,000 elms were examined in and around urban and rural municipalities. Of these, 3,063 were confirmed to have Dutch Elm Disease, and 11,971 were classified as hazards, many of these probably dead as a result of Dutch Elm Disease (DED). Due to the large number of elms infected in wild stands throughout southern Manitoba, particularly in eastern and central regions, control efforts were tightened to concentrate on elms in and around cost-sharing communities. Trees in the wild were largely ignored due to the impracticality of controlling the disease in those areas.

The number of municipalities with DED increased from 62 to 72 this year. DED was recorded for the first time this year in the Rural Municipality of Ste. Rose (Ste. Rose du Lac), RM of Lorne, RM of South Norfolk, RM of South Cypress, RM of North Cypress (Carberry), RM of Whitewater, RM of La Broquerie, RM of Blanshard (Napinka) and RM of Saskatchewan. Major urban centres like Winnipeg, Brandon, Portage la Prairie, Carman and Selkirk as well as major recreational areas such as the North West Angle Provincial Forest, Spruce Woods and Whiteshell Provincial parks and Riding Mountain National Park experienced an increase in disease incidence. Diseased and dying elms, though not confirmed by laboratory analysis, were observed as increasing in numbers on Hecla Island, Bissett, Nopiming Provincial Park, along the Netley Creek watershed North of Teulon and along the Northeast shoreline of Lake Manitoba.

Although DED continues to increase in wild stands, diseased elms in urban centres with control programs were comparably low. Less than one percent of Winnipeg's elms were diseased, and in Brandon, less than two percent of the elms were infected. Most of these trees are found in wild stands along the riverbanks where control measures are less effective.

The disease has continued to increase along most of southern Manitoba's rivers. Large increases in disease have occurred on the Red and Assiniboine rivers around Winnipeg, along the Assiniboine around Portage la Prairie, Brandon and west of Brandon. The Whitemud River around Westbourne has shown a considerable increase in disease, as well as the east escarpment of Riding Mountain National Park. The smaller river and creek systems in south central Manitoba also

experienced more pockets of infection, thus endangering the farm shelterbelts in the areas around Winkler, Altona, Morden, and Carman. The Souris River southwest of Brandon continues to have large concentrations of diseased elms.

Communities such as Neepawa, Rivers and Lac du Bonnet that had DED last year, had no disease this year. However, others such as Carman and Morden increased considerably this year as compared to last. The communities of Stonewall, Gimli, Morris and Altona have shown favourable results from sanitation practises including pruning and basal spraying. Over the last two years, Stonewall has pruned many of their elms and basal sprayed for overwintering beetles. In 1983 Stonewall had 13 diseased trees. In 1984 and 1985, they had only one and two respectively.

The first diseased trees in Manitoba this year were observed in the City of Portage la Prairie on May 12 and in the Winnipeg area about May 28. Because of generally cool spring weather conditions and substantial infestation of cankerworms external symptoms were delayed and sampling of diseased trees in any great numbers did not get started until the end of June. Most sampling was done in July and the first week of August.

From April first to October 31, 1985, the Provincial DED Sanitation crew removed 5,325 elm trees. In addition, approximately 1500 decadent elms were removed in Beaudry Provincial Park and Brandon west of Winnipeg during the winter works project which ran ran from December to March.

FOREST PEST MANAGEMENT

The objectives of the Forest Pest Management Program are to:

- Prevent widespread mortality or significant growth loss in forested areas having current or future commercial value, including natural stands, plantations, seed orchards and provincial forest nurseries;

- Provide technical expertise to maintain the forest cover in high use recreation areas on Crown lands in a vigorous and esthetically appealling state;

and

- Provide information and technical assistance to the public regarding forest pest problems.

What follows is a brief summary of the major insect and disease pest problems as covered by The Forest Act and Regulations.

SPRUCE BUDWORM CONTROL PROGRAM

Infestations in the Whiteshell Provincial Park and the southern Interlake Region entered their tenth consecutive season in 1985. Light to moderate defoliation occurred in scattered pockets in these areas. Severe defoliation has occurred in the area east of Lake Winnipeg near the Ontario boundary through 1982 to 1985. Considerable balsam fir mortality has occurred in these infested areas over the past four years.

Harvesting of white spruce and balsam fir is continuing in the Lac du Bonnet district of eastern Manitoba. Stands in these areas are in a state of decline due to repeated spruce budworm attacks.

In 1984 and 1985 severe defoliation occurred in the Mafeking and Winnipegosis districts of western Manitoba. This outbreak appears to have expanded from a localized infestation which began in the Mafeking area in 1983.

The 1985 larval counts in the Whiteshell and southern Interlake Region showed a decline in population levels. This drop-off in numbers was likely due to an early hatch followed by below normal temperatures in June. The decline does not appear to be a trend as egg mass counts predict generally moderate to severe defoliation levels for the spring of 1986.

JACK PINE BUDWORM CONTROL PROGRAM

The jack pine budworm infestation intensified and expanded in Manitoba in 1985. The Interlake and Eastern regions had a considerable increase in budworm activity with extensive areas of defoliation lying east and west of Lake Winnipeg. Hot spots of severe defoliation occurred in the new locations of Nelson River district, Western and Southeastern regions, particularly in the Provincial forests. The June aerial survey was flown prior to the peak of budworm activity as cool weather delayed larval development by several weeks.

A primary concern for the province has been the Moose Lake area of northwestern Manitoba with its extensive acreage of merchantable mature and valuable immature jack pine. This area had been severely defoliated for the past two years. Results from the previous year predicted severe defoliation for 1985. This did not occur. Preparations were, however, in place for a spray program with Thuricide 32F should the conditions have developed as orginally thought. An aerial survey of the defoliated area was carried out in August and confirmed the defoliation to be light with some localized moderate to severe pockets.

Prior to the 1985 defoliation, immature to overmature jack pine stands in the Moose Lake area were cruised to determine the percentage of top kill and tree decline according to age class. These jack pine stands had been severely defoliated in 1983 and 1984. Results showed approximately 35 percent top kill occurred in mature and overmature stands while approximately 20 percent top kill was observed in immature stands. However, a portion of this 20 percent includes suppressed and intermediate trees which would not become crop trees. From these observations it was concluded mature and overmature jack pine stands should have been sprayed after the first year of severe defoliation in the Moose Lake area.

Priority areas were selected in all five provincial regions for the 1986 jack pine budworm prediction. In choosing these areas the regions took into consideration overmature forests, poor site conditions, plantations and managed stands. Six - 60 cm. branches were sampled every square mile wherever possible in the priority jack pine stands. Besides counting egg masses and assessing defoliation on these branches, the number of male buds are also recorded. When completed, the 1986 predictions will help decide on the appropriate control strategy. Five levels or options for control have been drawn up. The five Regional Foresters have been presented with these options and will decide, based on the 1986 predictions, the appropriate control strategy for the region.

The jack pine budworm infestation is expected to continue in the South-east Region in the same areas as 1985, with some expansion into adjacent stands. Moderate to severe defoliation is predicted to cover 33,600 hectares of jack pine of various age groups in the Sandilands Provincial Forest.

ARMILLARIA ROOT ROT CONTROL PROGRAM

Armillaria Root Rot continues to be a concern in red pine plantations located in eastern Manitoba. Red pine in this area, growing on the fringe of its range and on typically jack pine sites is vulnerable to attack by this root rot fungus. Roots become infected by the fungus moving through the soil or by contact between infected and healthy roots. Once infected, reduced leader growth and slight chlorosis occurs. Chlorosis progresses with the tree finally completely yellowing and dying.

An impact study initiated in 1983 has monitored the progression of the disease within active infection centres in 9, 11,and 12 year old plantations. Within the five study plots, mortality due to Armillaria was 31.9 percent, 30.9 percent, 14.4 percent, 12.9 percent and 17.1 percent at the end of the 1985 field season. Over the 1985 season the percentage increase in mortality was 2.7 percent, 3.5 percent, 0.7 percent, 1.1 percent,and 2.0 percent. The cummulative increase in mortality over the two year period has been 7.9 percent, 9.7 percent, 5.2 percent, 3.1 percent and 4.0 percent. The disease still remains in a very active state.

In 1985 numerous active infection centres have been located in 30 to 35 year red pine plantations in southeast Manitoba. Assessments of damage and losses will begin in 1986.

DWARF MISTLETOE CONTROL PROGRAM

In Manitoba, dwarf mistletoe causes extensive damage reducing both the quantity and quality of merchantable timber. A total of $1.4 million has been allocated for dwarf mistletoe management between 1984-1989. Mistletoe management funds are allocated in yearly allotments of $280,000. During 1985/86, 66 percent of the budget was used for treatment operations and 11 perce nt was used for mistletoe ground surveys.

Detailed accurate mapping of mistletoe infections is the essential step to a successful dwarf mistletoe management program. Aerial surveys were conducted to identify, locate and map mistletoe infected stands. Once identified, infected stands were ground truthed to determine the intensity and severity of the mistletoe infection.

In 1985, post-logging treatments were prescribed for a number of mistletoe infected stands. A post-logging treatment is basically a sanitation approach removing all unmerchantable (infected) pine and all advanced regeneration scattered throughout a cut block. In most situations, infected residuals along the cut block edge can easily be removed (this objective is best accomplished at the time of harvest by altering cut block boundaries to include infected residuals). Occasionally, entire cut block boundaries are infected, and require a 16 meter (width) buffer strip to be established between infected residuals and the regenerating pine. A buffer strip can be created by planting resistant tree species (depending on site conditions) such as red pine and black spruce. In 1985, post-logging treatments were prescribed in Moose Lake, Belair, Cowan and Easterville areas.

All age classes of jack pine can be infected with dwarf mistletoe. Juvenile stands, are particularly vulnerable when previous harvesting or burned over areas leave infected residual pine scattered throughout a reforested area. Mistletoe seeds from the infected residuals are dispersed and shower down onto the immature pine. Over a rotation period, severely infected juvenile pine will experience significant reduction in vigor and growth plus mortality.

Control of dwarf mistletoe in juvenile stands can be accomplished by sanitation thinning and pruning treatments. Removal of severely infected pine and pruning infected branches from the remaining quality trees will reduce the intensity and severity of mistletoe. During the 1985/86 fiscal year, a total of 195 hectares of moderately infected juvenile pine were treated by a sanitation operation. The sanitation treatments were made in the Belair (60 ha.) Easterville (20.2 ha.), Devils Lake (10 ha.), Kettle Hills (20 ha.), and the Mitchell Lake (25 ha.) areas.

During 1985/86, the Grand Rapids area was selected for post-fire treatments because of the fire history and the large mistletoe infection in the area. In 1985, sixty hectares of buffer strips were identified and treated in Grand Rapids area.

Due to low timber volumes, severely infected jack pine stands are unsuitable for commercial harvest. Salvage operations in these stands have been conducted to provide campground firewood for the Parks Branch. This year approximately 400 cords of severely infected pine will be harvested and utilized as fuel wood.

Dwarf Mistletoe research activities continued in 1985. The ongoing study includes volume loss and rate of spread information, as well as the assessment of various mistletoe management treatments conducted in mature and immature jack pine stands.

CANADA/MANITOBA FOREST RENEWAL AGREEMENT

ANNUAL REPORT - 1985/1986

CANADA/MANITOBA FOREST RENEWAL AGREEMENT

In 1984, the governments of Manitoba and Canada signed a five year, $27 million forestry agreement aimed specifically at forest renewal; intensive forest management; public information; applied research and technology transfer. These programs were designed to address the broad objectives of security and expansion of Manitoba's timber supply.

Ongoing efforts to improve and increase seedling production at the two provincial nurseries continued throughout this past year in Program A - Forest Renewal. Pineland Nursery, near Hadashville now has 14 greenhouses operational with 5.7 million seedlings being tended. Clearwater Nursery near The Pas grew 5.7 million seedlings in their 12 greenhouses. Of that, 3.2 million have been moved to shadeframes for overwintering.

Abitibi-Price continued their forest renewal surveys, their cone collection and their seeding initiatives, planting 377,700 seedlings in a 190 hectare area this year. Manfor's plans to shearblade 2000 hectares and plant 1600 hectares of NSR backlog moved ahead by 400 hectares being shearbladed in the Goose River and Moose Lake areas. The Moose Lake Indian Reserve also received some reforestation by the planting of 58,000 seedlings.

Under Program B which is Intensive Forest Management, dwarf mistletoe control field activities continued with over 1000 hectares of infected areas pruned and cleaned and 43,560 trees planted. Ground surveys were completed in the Grand Rapids, Swan River, Moose Lake and Devil's Lake areas. Eight miles of right-of-way were brushed for silvicultural access.

Abitibi-Price and Manfor continued to thin black spruce and jack pine under this program, while carrying out site preparation and planting black spruce and white spruce.

Program C (Applied Research, Technology Transfer, Opportunity Identification and Nursery Development) was designed to provide a service function to ensure that necessary information would be available to enhance the effective management of Manitoba's forests.

Under the Applied Research sub-program, the tree improvement project nears the final stage of construction. The greenhouses have been completed and the equipment has been purchased. An official opening in being planned for the fall of 1986. The development of a jack pine seed orchard at the site of the former Birds Hill Research Nursery continues and equipment is being collected to facilitate pollen gathering.

An environmental impact study of aerial spraying of herbicides in forest management was carried out on a 232 hectare area that had been aerial sprayed with glyphosate. A report and the start of a procedures manual on the effects of aerial spraying of forestry herbicides on acquatic ecosystems was also produced. One other project of note was the work carried out by a forestry consultant to develop silvicultural prescriptions for the biological release of white spruce from trembling aspen.

Under the Technology Transfer and Opportunity Identification sub-programs, work continued on three forest economic projects: a study of silvicultural production project costs; a survey of the province's wood-using industries being carried out by Forintek; and a fire appraisal project. Insect and disease impact studies and surveys were conducted in 934 plots in provincial forests. To improve and upgrade the current system, containerized growing and handling systems used in Sweden were investigated and assessed to determine if and how they could be adapted to Manitoba's nurseries.

The computerized resource data base, G.I.S. (Geographical Information System) continued to expand its capabilities by producing maps and data for 20 township test areas. All of the equipment purchased in 1985 was tested, put into active use and maintained.

The objective of the Nursery Development sub-program is to improve Manitoba's forest nurseries to better meet the projected requirement for tree seedlings for forest renewal in the province. To achieve that goal, four new greenhouses were built at both Pineland and Clearwater during 1985/86. At Pineland, six new bareroot fields were rough levelled and the access road was repaired. At Clearwater, trays were prepared for seeding the 1986/87 crop and construction continued on the seedline facility. The official opening of the latter has been planned for August 1986.

To make Manitobans aware of the Canada/Manitoba Forest Renewal Agreement is the purpose of the final program, Public Information. To assist in that endeavor, the Canadian Forestry Service opened the Manitoba District Office in September. Federal Minister for State (Forestry) Gerald Merrithew and then-Natural Resources Minister, Samuel Uskiw, officially opened the new facility in Winnipeg. The Canada/Manitoba Forest Renewal Agreement displays and support materials began circulation in the province at a number of fairs and events, including the Canadian Institute of Forestry (CIF) convention in Winnipeg. Five hundred reprints of the Agreement text as well as a brochure outlining Agreement objectives and programs were printed.

Under the Evaluation sub-program, the final evaluation framework was presented to the Directorate. A "green ribbon" committee will be appointed early in Year Three to evaluate all programs under the Agreement to determine the effectiveness of the existing structure and to make recommendations for the second half of the Five Year Agreement.

A program of expenditures allotted and expended to March 31, 1986 follows. Additional detailed reports on Agreement projects are available from the Forestry Branch head office.

SUMMATION BY PROGRAM

(000's)

		100% PROVINCIAL		50/50		FEDERAL	
		ALLOTTED	EXPENDED	ALLOTTED	EXPENDED	ALLOTTED	EXPENDED
PROGRAM "A"	FOREST RENEWAL	744.0	736.0	-	-	$ 334.8	281.0
PROGRAM "B"	INTENSIVE FOREST MANAGEMENT	280.0	250.5	-	-	661.6	608.7
PROGRAM "C"	APPLIED RESEARCH, TECH TRANSFER OPPORT. IDENT & NURSERY DEVELOPMENT	1,373.0	1,366.6	700.0	677.0	1,587.2	1,501.1
PROGRAM "D"	PUBLIC INFORMATION, EVALUATION AND ADMINISTRATION	6.0	2.4	-	-	234.9	215.1
AGREEMENT TOTALS	1985/86 $	2,403.0	2,355.5	$ 700.0	677.0	$ 2,818.5	2,605.9

THE JOBS FUND SECTORAL PROJECT IN FORESTRY

ANNUAL REPORT - 1985/86

THE JOBS FUND SECTORAL PROJECT IN FORESTRY

Based on the activity identified in the Manitoba Forest Management Plan 1981 - 2000 the Canada/Manitoba Forest Renewal Agreement was negotiated at a 50 million dollar level over a five year period. When this Agreement was actually signed on March 15, 1984 it had been reduced to a total of $27.2 million. Part of the difference is being made up through forest renewal through a Jobs Fund program known as the Sectoral Project in Forestry.

The Jobs Fund Sectoral Project in Forestry represents a $15.8 million commitment for forest renewal activity that is being delivered in a parallel fashion to the Canada/Manitoba Forest Renewal Agreement over the same five year period 1984-1989. The activities associated with the four programs of the Sectoral project for the fiscal year ending March 21, 1986 are outlined below.

In the area of Forest Renewal, 3.6 million trees were planted, over 112 hectolitres of cones were collected and almost 800 hectares were scarified for natural regeneration. In addition, 30 miles of access road was upgraded for the purpose of forest renewal and some funds were expended to complement the ongoing improvements at both Pineland and Clearwater Provincial Forest nurseries.

Under Forest Management a combination of thinning, conifer release and site preparation has been undertaken on a total of 2,730 hectares. Thirty-five thousand trees were also planted and over 300 hectares treated with herbicide.

The entire third program, Nursery Development, was spent in augmenting the developmental activity at the two nurseries. This amounted to an expenditure in excess of half a million dollars.

The final program area, Public Information, involved a number of activites including the development of Forestry Branch emblems (1200); reprinting of the jack pine budworm brochures (6,000), the Forest Tent Caterpillar brochures (10,000), the Dwarf Mistletoe brochures (10,000), the Spruce Budworm brochures (10,000) and the Heritage Trees of Manitoba brochures (10,000). A set of 7,000 Project Learning Tree Manuals were purchased (The Manitoba Forestry Association will teach the program- this was to get the effort underway), and

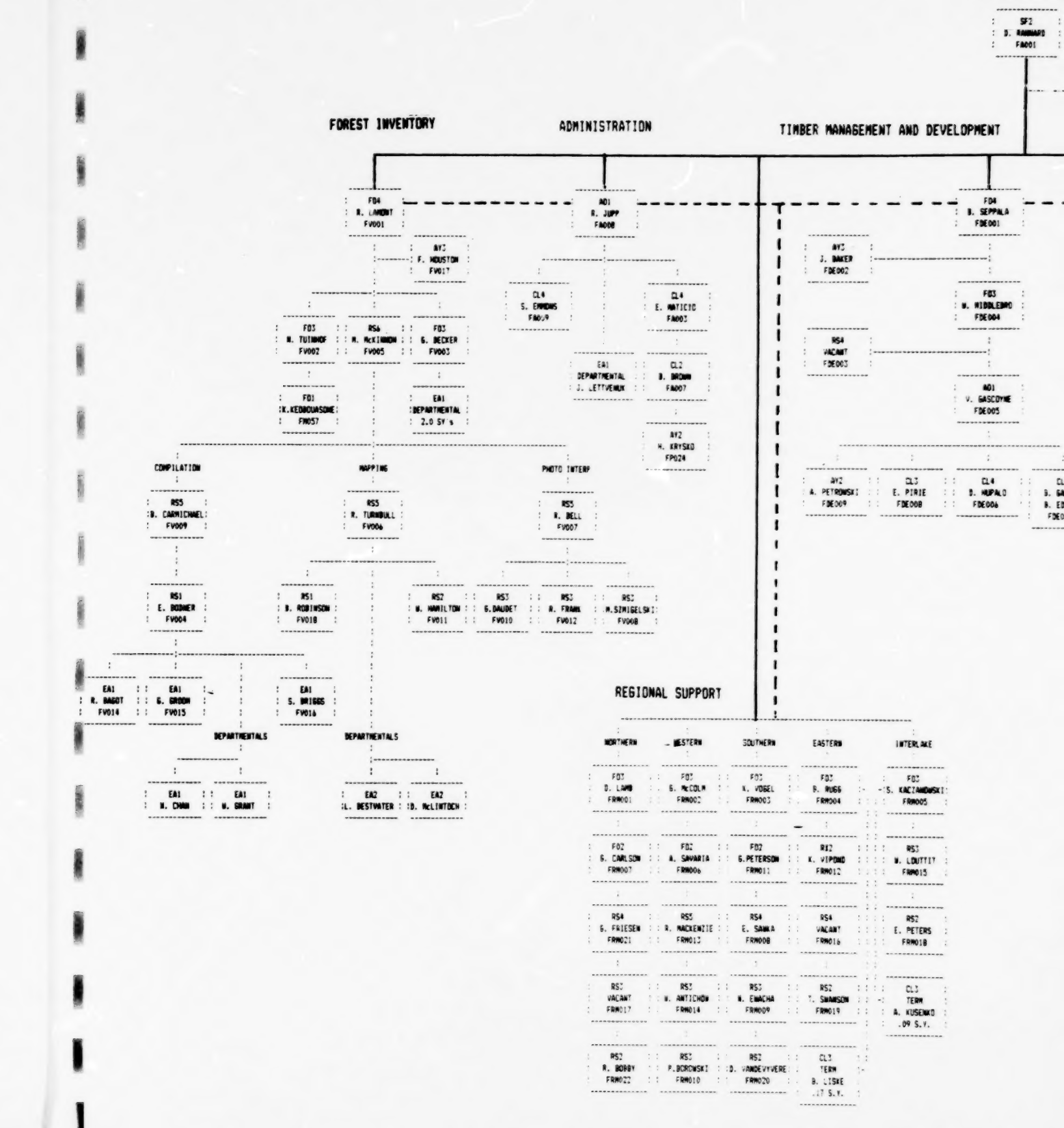
a joint effort with the Canadian Forestry Service resulted in the new edition of Native Plants of Manitoba (2,500). The Manipac Education series was expanded to a Mani-Nature Series that features 22,000 copies of slides of pictures of trees, twigs, leaves... Display space was used at the CIF Convention in Winnipeg for the forestry story and Winnipeg later played host to the National Public Information Task Force meeting.

Although the premise upon which the Jobs Fund supports forestry programming is based on the long term viability of an existing industry, there is also a short term employment generation that results. A program by program list of expenditures and jobs created is listed below.

PROGRAM	$ ALLOCATED	$ SPENT	WORK WEEKS CREATED
FOREST RENEWAL	1,073.5	1,034.6	1,588
FOREST MANAGEMENT	1,402.9	1,382.9	2,409
NURSERY DEVELOPMENT	508.6	507.6	57
PUBLIC INFORMATION	130.0	99.4	61
TOTAL	3,115.0	3,024.5	4,115

FORESTRY BRA

ORGANIZATION C



FORESTRY BRANCH
ORGANIZATION CHART

UPDATED 26-Mar-86

SF2 D. RAMNARD FA001

AY4 D. LEWIS FA002

ADMINISTRATION

AO1 R. JUPP FA008

CL4 S. EMMONS FA009

CL4 E. MATICIO FA003

EA1 DEPARTMENTAL J. LETTVENUK

CL2 B. BROWN FA007

AY2 H. KRYSKO FP024

PHOTO INTERP

RS5 R. BELL FV007

RS3 G.BAUDET FV010

RS3 R. FRANK FV012

RS3 M.SZMIGELSKI FV008

TIMBER MANAGEMENT AND DEVELOPMENT

FD4 B. SEPPALA FDE001

AY3 J. BAKER FDE002

FD3 W. MIDDLEBRO FDE004

RS4 VACANT FDE003

AO1 V. GASCOYNE FDE005

AY2 A. PETROWSKI FDE009

CL3 E. PIRIE FDE008

CL4 D. MUPALO FDE006

CL4 B. GAGNE B. EDIGAR FDE007

REGIONAL SUPPORT

NORTHERN

FD3 D. LAMB FRM001

FD2 G. CARLSON FRM007

RS4 G. FRIESEN FRM021

RS2 VACANT FRM017

RS2 R. BOBBY FRM022

WESTERN

FD3 G. McCOLM FRM002

FD2 A. SAVARIA FRM006

RS5 R. MACKENZIE FRM013

RS3 W. ANTICHON FRM014

RS3 P.BORDWSKI FRM010

SOUTHERN

FD3 K. VOGEL FRM003

FD2 G.PETERSON FRM011

RS4 E. SAWKA FRM008

RS3 N. ENACHA FRM009

RS2 D. VANDEVYVERE FRM020

EASTERN

FD3 B. RUGG FRM004

RI2 K. VIPOND FRM012

RS4 VACANT FRM016

RS2 T. SWANSON FRM019

CL3 TERM B. LISKE .17 S.Y.

INTERLAKE

FD2 S. KACZANOWSKI FRM005

RS3 W. LOUTTIT FRM015

RS2 E. PETERS FRM018

CL3 TERM A. KUSENKO .09 S.Y.

FOREST PROTECTION & DUTCH ELM DISEASE

FD4 G. MUNRO FP002

AY3 I. MARRIOTT FP521

AY2 W. KRYSKO FP024

TERM INFO. WRITER C. TARDI

M.F.A. TERM .45 S.Y.

MISTLETOE FORESTER

FD1 TERM VACANT FJF509

SURVEYS

BL2 K. KNOWLES FP011

FOREST RENEWAL PESTS

RS3 Y. BEAUDIEN FP015

DEPARTMENTAL .16 S.Y.

RS3 VACANT FP013

RS2 W. REIMCHE FP012

COST SHARING AGREEMENT

RS5 T. BOYCE FP016

RS3 J. SKUBA FP018

RS3 K. FOSTY FP019

AY2 H. SISSON TERM .26 S.Y.

RESEARCH & EXT.

BL3 VACANT FP522

RS2 I. PINES FP020

OPERATIONS

RS5 L. MATWEE FP017

RS5 A. CARRIERE FP014

CL2 S. NIELSEN FP026

WR5 R. MENDRICK FP025

DEPARTMENTAL 11 S.Y.

SILVICULTURE

FD4 L. YARR FM022

AY3 K. BUECKERT FM027

TREE IMPROVEMENT

FD3 S. SEGARAN FM059

SILVICULTURE

FD3 G. ARDRON FM023

NURSERIES

PINELAND

FD3 R. CAMERON FM002

CLEARWATER

FD3 S. TORNBLOM FM008

CL3 L. RZYHAK FM005

CL3 D. GALE FM009

RS4 R. MORRISON FM026

FD2 VACANT FM006

RS2 G. FALK FM007

FD2 TERM VACANT FJF510

RS6 J. ATKINSON FM005

DEPARTMENTALS

EA4 M. NAZAR

DR3 M. FIOLA

DR2 F.SHANDROSKI

DR2 R. GERYLO

PK1 E. HOEL

DR2 D. LECLERC

DR1 L. SAMEC

DR2 D. TURCOTTE

RS6 F. McKINNEY FM005

PK3 J. THOMSON FM058

DR3 DEPARTMENTAL E. CARRIERE

DEPARTMENTAL LABOURER .07 S.Y.

CANADA/MANITOBA FOREST RENEWAL AGREEMENT

RS2 TERM	RS2 TERM	RS2 TERM	RS2 TERM	RS2 TERM
S. WARNER	J. DYCK	R. JOHNSTON	R. HIEBERT	VACANT
FJF502	FJF507	FJF504	FJF508	FJF501
NORTHERN	WESTERN	SOUTHERN	EASTERN	INTERLAKE

TERM RESOURCE TECHNICIANS

RS2 TERM	RS2 TERM	RS2 TERM	RS2 TERM
P. McWHIRTER	G. SAYER	W.TROWELL	E. EAST
FJF502	FJF506	FJF505	FJF500
NORTH./WEST.	WEST./INTER.	EAST./SOUTH.	SOUTH/PINELAND